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Approaching refusal of colorectal cancer screening

Chester Family Practice, Chester, Vermont

Greg Witcher

April Rotation 2017

Mentor: Robert Schwartz M.D.

Problem identification: Colonoscopy is considered the most accurate screening test for colorectal cancer. Despite favorable evidence, publicity and funding, many patients refuse colonoscopy.

- **This project aimed to investigate the reasons why patients refuse colonoscopy, the screening rates for colonoscopy, alternatives to colonoscopy and methods primary care physicians can use to encourage patients to have colorectal cancer screening.**

Description of need: Colorectal cancer is second in both cancer incidence and mortality in Vermont³. Despite its presence, screening for colorectal cancer remains underused¹. Nationally, only 59% of adults over 50 have been screened for colorectal cancer².

Efforts to increase rates of screening should focus on the primary care setting, both provider and patient, where most referrals for colonoscopy are made.

Public health cost:

- Colorectal cancer is the second-leading cancer in terms of both incidence and mortality in Vermont.

Figure 1: CRC Incidence per 100,000

| Cancer type | U.S. | Vermont |
|----------------------|-------------|-------------|
| 1. Lung and Bronchus | 61.9 | 66.8 |
| 2. Colorectal | 40.6 | 37.4 |
| 3. Melanoma | 20.1 | 33.6 |

Figure 2: CRC Mortality per 100,000

| Cancer type | U.S. | Vermont |
|----------------------|-------------|-------------|
| 1. Lung and Bronchus | 46.0 | 47.9 |
| 2. Colorectal | 15.1 | 14.5 |
| 3. Pancreas | 10.9 | 11.7 |

- Studies suggest that colorectal cancer screening is cost-effective. Less than \$30,000 must be spent per additional year of life gained. It has been estimated that routine screening could save 18,800 lives per year.

Community perspective on colonoscopy:

Reasons cited for refusal:

“I don’t know what happened but [the colonoscopy] didn’t go well for someone I know.”

-BB (patient)

“I heard the prep is really unpleasant.”

-RM (patient)

“I don’t have insurance so I can’t afford a colonoscopy.”

-MP (patient)

“The idea of being sedated makes me really nervous. I think it’s just my hemorrhoids”

-AS (patient)

Expert perspective:

“Patients usually refuse colonoscopy because of fear of unknown, bad experiences of previous friends or relatives. The key is the presentation.”

M.D. – name withheld

Project intervention and methodology:

1. Analyzed rates of colonoscopy screening in in Chester, the Springfield Medical System, Windsor county, Vermont and the United States.
2. Reviewed literature on colorectal cancer screening methods¹.
3. Reviewed literature on best practices for getting patients screened in the primary care setting^{4,5}.
4. Created colorectal cancer screening review presentation for the staff of Chester Family Medicine incorporating most recent recommendations.
5. Presented for the group on my last day of the clerkship.

Results/Data:

| Region | % of patients ages 50-75 screened for colorectal cancer |
|--------------------------------|--|
| Chester Family Medicine | 56%* |
| Springfield Medical System | 54%* |
| Windsor County ² | 70% |
| Vermont ² | 71% |
| U.S. ³ | 59% |

*These internal Springfield Medical System data only include screening by colonoscopy.

What we can do to increase screening for colorectal cancer:

Using colloquial language, accessible numeracy, loss-framed and gain-framed messages and completeness, providers are recommended⁶ to address:

- Probability of developing the cancer
- Operating characteristics of the screening test
- Likelihood screening will benefit the patient
- Potential burdens of the test

Effectiveness of response and limitations:

- My presentation was attended by the 15-person staff of Chester Family Medicine and a Springfield Medical Systems executive.
- A discussion followed that built upon the information I presented and suggested that the staff was interested in screening more patients in the future.
- Multiple staff members commented that they plan to change their practices based on the information presented.
- The Springfield Medical Systems executive who attended explained for the group that for patients without insurance, there is an assistance program available that will pay for colonoscopy and other procedures completely.
- There was insufficient time to follow up on how many patients were screened after my presentation.

Recommendations for the future:

- Studies have shown that Personal Risk Communication can increase patient uptake of screening tests⁶. Therefore, rapid, point-of-care calculation of a patient's lifetime risk for colorectal cancer would be an invaluable tool for primary care physicians.
- Currently there is no smart phone app available to calculate a patient's risk of colorectal cancer. Implementation of a smart phone app with this capability app would take advantage of Personal Risk Communication and give primary care physicians a new and much-needed tool.
- A rendering that incorporates some well-proven risk factors for colorectal cancer is shown in the image at right.

The image shows a smartphone screen with a 'CRC Risk Calculator' app. The app interface includes the following elements:

- Header:** 'Clear' button, 'CRC Risk Calculator' title, and 'Calc' button.
- Gender:** A toggle switch between 'Male' and 'Female'.
- Age (years):** A text input field containing '20-75'.
- Close relatives with colorectal cancer?:** A toggle switch between 'Yes' and 'No'.
- History of IBD, Crohn's or UC?:** A toggle switch between 'Yes' and 'No'.
- Relatives with FAP or Lynch Syndrome?:** A toggle switch between 'Yes' and 'No'.
- Results:** Two colored boxes at the bottom:
 - Yellow box: 'Probability you have adenomatous polyps now' with a value of '27.5%'.
 - Green box: 'Your lifetime risk of colorectal cancer' with a value of '4.7%'.

Figure Colorectal cancer risk assessment app prototype

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